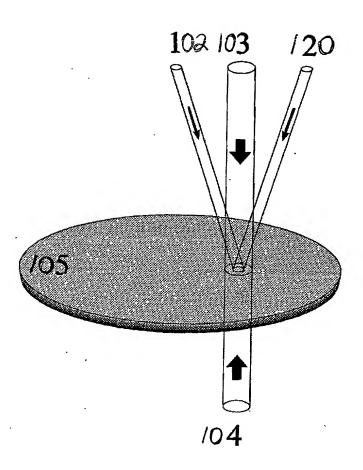


Figure 2

Docket No.: 301962.3000-100 Title: Optical Storage System

Inventors: Wu et al.





102 and 120: Red coherent laser beams with linear polarization

103 and 104: Blue light beam (not required to be coherent) with linear polarization

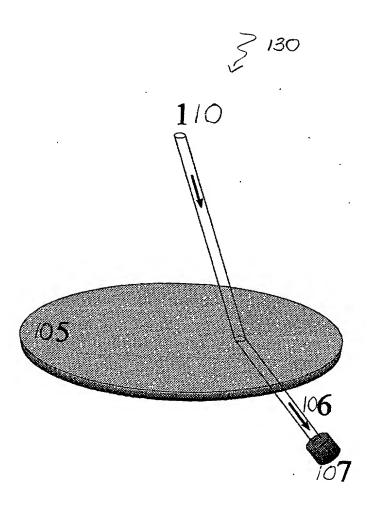
105:

Azobenzene-PVA film

Figure 3

Docket No.: 301962.3000-100 Title: Optical Storage System

Inventors: Wu et al.



110: Reading beam of red coherent laser

105: Azobenzene-PVA film

Red diffraction beam 106:

Photo-detector 107:

Figure 4

v 134

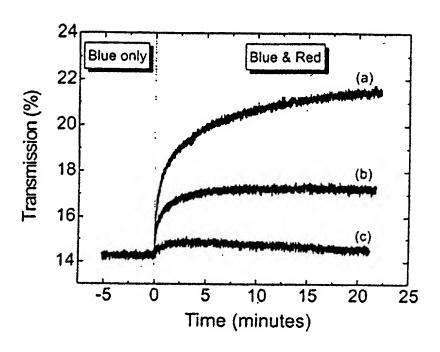
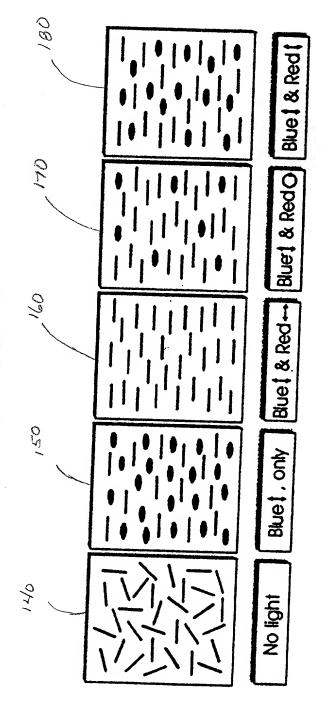


Figure 5



- 00

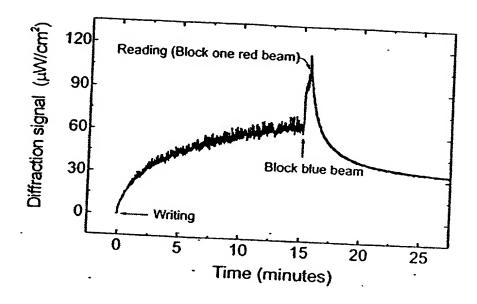


Figure 7

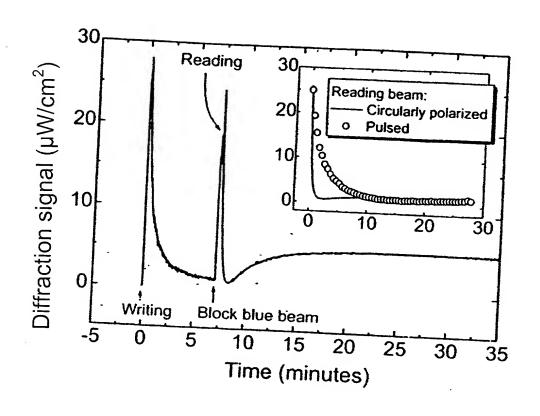


Figure 8

Providing a p-polarized beam (blue light) at a wavelength of ≈ 442 nm onto the surface of the polymer film from two opposite directions

246

Generating trans-cis isomerization and molecular reorientation

248

Providing s-polarized red beams at ≈ 647 nm, polarized perpendicular to the blue beam onto the surface of a photoisomerized polymer film (azobenzene film)

Forming a holographic grating

250

Forming a holographic grating

Generating cis-trans isomerization, optimizing reorientation of the molecules and transferring the volatile isomerization grating to a non-volatile orientation grating

End

Docket No.: 301962.3000-100 Title: Optical Storage System

Figure 9

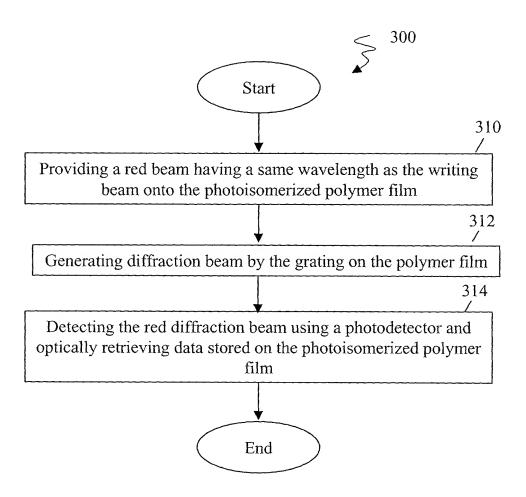
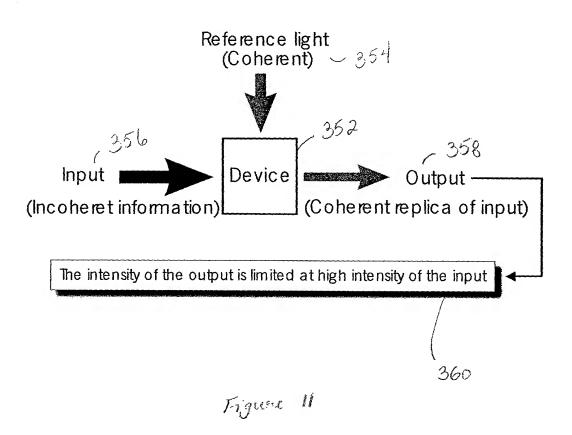
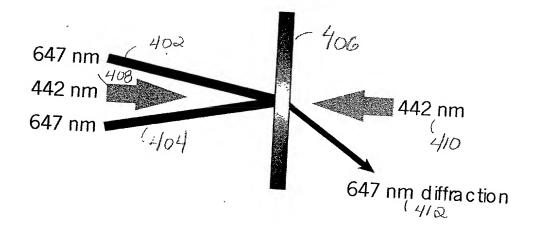


Figure 10

350







Tigues 12